

REMARKS

In accordance with the foregoing, the specification has been amended and, further, various of the claims have been amended as specified hereinafter to correct terminology and thereby clarify the invention. No new matter is presented and, accordingly, approval and entry of the specification and claim amendments are respectfully requested.

STATUS OF CLAIMS

The Summary and item 9 of the Action both list claims 1-4, 7-9, 12-16, 19-21 and 24-26 as allowed.

The Summary and item 10 both list claims 6, 11, 18, 23, and 27 as objected to, since dependent on a rejected base claim, but allowable if suitably rewritten to independent form.

However, claims 9, 18, 21, 23, and 27, are incorrectly indicated as either allowed or allowable since rejected under 35 USC § 112, ¶2 in item 4 of the Action.

Claims 5, 10, 17, and 22 are rejected over the art.

ITEM 1: DRAWING OBJECTIONS; AND

ITEM 2: OBJECTION TO SPECIFICATION FOR FAILING TO PROVIDE ANTECEDENT BASIS FOR CLAIMED SUBJECT MATTER

The drawing objections assert the failure of the drawings to include terms appearing in the claims, namely:

an original clock frequency

an execute signal

a front subframe

a rear subframe

(1) "an original clock frequency"

The phrase "an original clock frequency" corresponds to a frequency of a clock generated by the VCO 123 in Fig. 16 and is identified in the specification as being termed --an original clock frequency--.

(2) "an execute signal"

An "execute signal" indicates a group of signals which are applied to X, Y and address electrodes in an address period and in a sustain period, and which are generated from the clock signal.

(1) "an original clock frequency" and (2) "an execute signal"

The terms "original clock frequency" and "execute signal" appear in the Summary of the Invention at page 11, lines 3-4 and line 4, respectively.

(3) "a front subframe" and (4) "a rear subframe"

The terms "front frame" and "rear frame" are correct.

Conversely, the terms "front subframe" and "rear subframe" are incorrect. Accordingly, these incorrect terms have been changed to --front frame-- and --rear frame-- in claims 9, 21, and 27. Support for the corrected terms is available in the specification and drawings.

For example, the Summary of the Invention at page 10, lines 24-27 recites:

Moreover, if a frame is divided into two subframes, that is, a front frame and a rear frame, and one of the two most brightness-weighted subfields is provided in the front frame and the other subfield in the rear frame....

(Emphasis added)

Further, Figs. 13A and 13C have (common) labels "FRONT FRAME" and "REAR FRAME" and the same are used at page 10, line 25 in the Summary of the Invention and also at pages 15-16 discussing Fig. 13A. See also page 16, lines, 5, 11 and 14-15.

In accordance with the foregoing, it is respectfully submitted that the questioned/objected-to terms have been shown to have a proper basis in the specification and drawings and that the objections of item 2 should be withdrawn.

ITEMS 4-6: REJECTIONS OF NUMEROUS CLAIMS UNDER 35 USC § 112, ¶ 2

The claims listed in these three items (4) to (6) are rejected for indefiniteness (item 4) and insufficient antecedent basis (items 5 and 6) for the recitations of the same four terms as listed above in item 1 of the Action.

As to item 5, the recitations of "a front subframe" and "a rear subframe" are incorrect and the same have been corrected and are shown above to have an appropriate written descriptions in the specification under 35 USC § 112, ¶ 1. Hence, there is no indefiniteness (§ 112, ¶ 2) involving these terms.

In item 6, the Examiner asserts § 112, ¶ 2 rejections as to the limitations "an original clock frequency" and "an execute signal." The rejections are respectfully traversed. These claim limitations have a basis in the specification (see, e.g., page 11, lines 3, 4, 9, 14-15 and elsewhere) and further have been defined and explained hereinabove. Further, since the limitations appear as initial recitations of these terms, they do not require antecedent support but instead provide antecedent support for subsequent recitations of those terms and hence there is no indefiniteness under § 112, ¶ 2 which is possible in this instance.

Accordingly, it is respectfully submitted that the § 112, ¶ 2 rejections of items 4-6 have been overcome and the rejections should be withdrawn.

SUPPORT FOR ADDITIONAL CLAIM AMENDMENTS

The amendment of "a total number of lit pulses in the frame" in claim 5, lines 8-9, in claim 10, line 5, in claim 17, lines 8-9 and in claim 22, lines 5-6 to --a total number of sustain pulses in the frame-- is supported on page 19, lines 4-22.

The amendment of "in said address period" and "lit pulses" in claims 6, 11, and 18, line 3, and in claim 24, lines 2-3 to --in said light period-- and --sustain pulses-- is supported on page 11, lines 14-17 and on page 19, lines 4-22.

ITEM 8: REJECTION OF CLAIMS 5, 10, 17, AND 22 FOR OBVIOUSNESS UNDER 35 USC § 103(a) OVER TANAKA (USP 6,552,701) IN VIEW OF MOON (USP 6,466,187)

The rejections are respectfully traversed.

Claims 5, 10, 17, and 22 commonly recite a feature that when a total number of sustain pulses in a frame is varied, an original clock frequency, which generates execute signals at least in the address period or in the light period, is varied.

Tanaka (USP 6,552,701) discloses various subfield constitutions in which two brightest subfields having a common weight are arranged at an interval of about half a length of the frame. However, Tanaka (USP 6,552,701) does not teach that a total number of sustain pulses in a frame is varied, therefore, Tanaka (USP 6,552,701) does not teach that when a total number of sustain pulses in a frame is varied, a clock frequency is varied.

Further, Moon (USP 6,466,187) teaches a plasma display apparatus in which a difference of brightness and gray level between subfields is corrected by adjusting a frequency of the sustaining pulses. However, Moon does not teach that a total number of sustain pulses in a frame is varied. Further, whereas Moon teaches that a frequency of the sustaining pulses is adjusted, Moon has no concrete description of how to adjust the frequency of the sustaining pulses. Namely, Moon does not teach or suggest that a clock frequency is varied.

As described above, neither of Tanaka nor Moon teaches that a total number of sustain pulses in a frame is varied. Therefore, the constitution of the present invention is not obvious from a combination of Tanaka and Moon.

Further, an object of the invention of Tanaka is different from that of Moon, and thus a combination of Tanaka and Moon is not obvious.

Further, the inventions claimed in claims 5 and 17 describe that the two brightest subfields (subfields of Bn brightness and BN-1 brightness) are arranged at an interval of about half a length of the frame. Tanaka discloses a subfield arrangement similar to this arrangement. The present invention relates to a case in which a control such as a power control, in which a total number of sustain pulses in the frame is varied, is applied to the above subfield arrangement. When the total number of sustain pulses in the frame is varied in this subfield arrangement, a total time length of all subfields in the frame is varied, and a rest period is arranged to absorb this time variation. However, when this operation is carried out, a brightness distribution in the frame is changed. The present invention reduces the variation of the brightness distribution.

For example, the invention claimed in claims 3, 7, 15 and 19 achieves this object by dividing the rest period into plural rest periods.

The invention claimed in claims 5 and 17 achieves this object in a different way. According to the constitution recited in claims 5 and 17, the clock frequency is varied to change the cycle period of the sustain frequency. In this constitution, although the total number of sustain pulses in the frame is varied, the brightness distribution in the frame is maintained. As described above, an unexpected effect can be obtained by the constitution claimed in claims 5 and 17.

None of the cited references discloses or suggests this above objects and effects.

ABSENCE OF ANY *PRIMA FACIE* BASIS OF OBVIOUSNESS OF THE COMBINED REFERENCES

The proposed combination of Tanaka and Moon is advanced in reliance on "basic knowledge" or "common sense" which the Federal Circuit has rejected as affording "no evidentiary support", In re Zurko, 258 F3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001), and which has been rigorously endorsed by the PTO in accordance with the Memorandum of Stephen G. Kunin of February 21, 2002: "Procedures For Relying On Facts Which Are Not Of Record As Common Knowledge Or For Taking Official Action." (Hereinafter, "Kunin Memorandum", copy enclosed) The "lack of substantial evidence" (see Kunin Memorandum, page 1) is evident in the above statements.

Clearly, the Examiner is merely advancing unsupported contentions based on presumably "common sense" and without evidentiary support to propose the combinations relied upon and the Kunin Memorandum unqualifiedly rejects same as inadequate.

CONCLUSION

In accordance with the foregoing, it is respectfully submitted that the pending claims patentably distinguish over the art of record and, there being no other objections or rejections, that the application is in condition for allowance, which action is earnestly solicited.


Serial No. 09/985,780

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

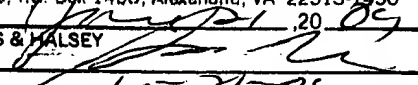
Respectfully submitted,

STAAS & HALSEY LLP

Date: June 21, 2004

By: 
H. J. Staas
Registration No. 22,010

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

CERTIFICATE UNDER 37 CFR 1.8(a)
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 21, 2004
By: 
STAAS & HALSEY
Date: 6-21-04